

**Water Quality Project: Pre/Post Test Key**

1. A procedure used to check the accuracy of water testing equipment is called \_\_\_\_.  
☐ contamination  
☐ collection  
☒ calibration  
☐ extrapolation
2. Water is one of the most stable of all chemical compounds.  
☒ T  
☐ F
3. Neither acids nor gases can break water down into its basic elements.  
☒ T  
☐ F
4. Electrical storms make water unstable.  
☒ T  
☐ F
5. In the winter, huge ice masses which contain no salt form in ocean salt water and therefore could be melted and used for drinking water.  
☒ T  
☐ F
6. When the air contains all the moisture it can hold at a given temperature, the relative humidity is 100%.  
☒ T  
☐ F
7. The federal agency whose mission at-large is to protect the environment is the EPA.  
☒ T  
☐ F
8. Lemon juice is an acid and all acids taste sour. Baking soda is alkaline or basic and will neutralize the sour taste of lemon juice.  
☒ T  
☐ F
9. Anaerobic bacteria commonly live in swamps, where there is very little oxygen.  
☒ T  
☐ F

10. Water that is safe to drink is called potable H<sub>2</sub>O.  
☒ T  
☐ F
11. Which of the following is one test for evaluating water quality?  
☐ eutrophication  
☐ irrigation  
☒ clarity  
☐ stagnation
12. A solution, which is acidic, can have a pH of \_\_\_\_\_.  
☐ 7  
☐ 10  
☒ 4
13. A solution, which is neutral, has a pH of \_\_\_\_\_.  
☐ 0  
☒ 7  
☐ 14  
☐ Only superman knows.
14. A substance that can neutralize an acid or base without appreciable changing its own character is \_\_\_\_\_.  
☐ biodegradable  
☐ a pollutant  
☐ a carcinogen  
☒ a buffer
15. Most of the water in the United States is stored in \_\_\_\_\_.  
☐ rivers  
☐ lakes  
☐ oceans  
☒ underground aquifers
16. Many minerals in water make it \_\_\_\_\_.  
☒ hard  
☐ soft  
☐ mushy  
☐ poisonous
17. Salty ocean water evaporates as \_\_\_\_\_.  
☐ salt H<sub>2</sub>O  
☒ fresh H<sub>2</sub>O  
☐ H<sub>2</sub>O that is half fresh and half salty  
☐ It does not evaporate.

18. A substance that may cause cancer is called \_\_\_\_\_.  
☐ an antihistamine  
☐ salination  
☐ de salination  
☒ a carcinogen
19. A solution that has a pH of 10 is how many times more alkaline than a solution of pH 8?  
☐ 10  
☒ 100  
☐ 1000  
☐ 10000
20. The two places in the H<sub>2</sub>O cycle where polluted water may be cleaned are \_\_\_\_\_.  
☐ evaporation and precipitation  
☐ precipitation and filtration through the ground  
☒ evaporation and filtration through the ground  
☐ evaporation and eutrophication
21. The two gasses most responsible for producing acid rain are \_\_\_\_\_.  
☒ sulfur and nitrogen oxides  
☐ nitrogen and potassium oxides  
☐ nitrogen and phosphorus oxides  
☐ oxygen and carbon dioxide
22. Acid rain has a pH of \_\_\_\_\_.  
☒ below 5.6  
☐ of exactly 7.0  
☐ above 7.0  
☐ below 2.0
23. The main cause of acid rain is \_\_\_\_\_.  
☐ nuclear power plants  
☐ private homes which burn natural gas  
☐ city wastewater treatment plants  
☒ automobiles and coal-fired power plants
24. Substances that absorb and neutralize acids and bases are called \_\_\_\_\_.  
☐ neutralizers  
☐ acid-base equalizers  
☒ buffers  
☐ gnomes

25. A catchment basin is the area drained by a river and its tributaries and usually includes a large body of water at its end.  
☒ T  
☐ F
26. Factors that determine the characteristics of a body of water may include such factors as \_\_\_\_\_.  
☐ temperature  
☐ color and pH  
☐ dissolved oxygen  
☐ electrical conductivity  
☒ all of these
27. Precision means \_\_\_\_\_.  
☒ the ability to obtain consistent results  
☐ how close a number is to what it should be, that is, its true value  
☐ both of these  
☐ neither of these
28. When calibrating a measuring instrument to assure it is functioning properly, a solution of known value is tested.  
☒ T  
☐ F
29. Material Safety Data Sheets (MSDS) come with each chemical used to do testing to \_\_\_\_\_.  
☐ let the user know the hazards involved with using that particular chemical  
☐ they are required by law as part of the Employee Right To Know Act  
☐ instruct the user who ingests the chemical by accident what to do next  
☐ provide the user with every item of information needed to ensure safety when using that particular chemical  
☒ all of the above
30. When testing water for dissolved oxygen and pH, which factor below is most important?  
☐ turbidity  
☐ hardness  
☒ temperature  
☐ viscosity
31. The amount of dissolved oxygen in a body of water is important because \_\_\_\_\_.  
☐ the survival of plants and animals depends on the amount of oxygen present  
☐ it is affected directly by many natural processes and by human activities  
☐ it is an indication of how much eutrophication is present  
☒ all of the above

32. Water samples have a shelf life, meaning they are not reliable after a certain period of time.  
☒ T  
☐ F
33. A titration is a test procedure where an acid neutralizes a base and the point at which that neutralization takes place is usually indicated by an indicator, which changes from one color to another to indicate completion of the reaction.  
☒ T  
☐ F
34. The pH or acidity of a water sample is a key factor in determining what can live in the water.  
☒ T  
☐ F
35. Electrical conductivity is a measure of the amount of total dissolved solids in the water.  
☒ T  
☐ F
36. The testing of water for heavy metals involves \_\_\_\_\_.  
☐ listening to a Metallica CD while getting a drink  
☐ checking for metals that are dissolved in the water  
☐ some very high tech sophisticated methods of analysis  
☒ only the last two above
37. Water samples may have a shelf life of up to six months if \_\_\_\_\_.  
☐ they are stored in direct sunlight  
☐ they are stored in a dark location  
☒ they have been properly preserved with acid  
☐ there are no conditions that will allow a six-month shelf life
38. Samples that are to be preserved must be treated with both nitric and hydrochloric acids within two weeks of the time of collection, held for 16 hours after acidification and then the pH verified to be less than 2.  
☒ T  
☐ F
39. Most ground water is located in \_\_\_\_\_.  
☐ underground lakes  
☐ underground rivers  
☐ caves  
☒ porous rock layers